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TM 11-7440-314-13-1

TECHNICAL MANUAL

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**OPERATOR'S, ORGANIZATIONAL AND
DIRECT SUPPORT MAINTENANCE MANUAL
COLOR GRAPHIC COMPUTER TERMINAL**

RAMTEK MODEL R6211-01

**HEADQUARTERS, DEPARTMENT OF THE ARMY
15 NOVEMBER 1985**

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TECHNICAL MANUAL }
No. 11-7440-314-13-1 }

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HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 15 November 1985

OPERATOR'S, ORGANIZATIONAL AND DIRECT SUPPORT MAINTENANCE MANUAL COLOR GRAPHIC COMPUTER TERMINAL RAMTEK MODEL R6211-01

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ME-MP, Fort Monmouth, NJ 07703-5007. In either case, a reply will be furnished direct to you.

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1. Scope

a. This manual, together with the manufacturer's publications listed below, which has been authenticated as TM

Manufacturer's Publication

Color Graphics Language
Color Graphics Computer Terminal (6210) Vol 1
Color Graphics Computer Terminal (6210) Vol 2
Graphic Display Monitor GM-714
Color Monitor GM-713/719

b. This manual includes:

(1) References (appx A).

(2) Components of End Item List (COEIL) (appx B).

(3) Maintenance Allocation Chart (MAC) (appx D).

c. Repair parts and special tools list are included in TM 11-7440-314-24P.

2. Consolidated Index of Army Publications and Blank Forms

Refer to the latest issue of DA Pam 310-1 to determine whether there are new editions, changes or additional publications pertaining to the equipment.

3. Maintenance Forms, Records, and Reports

a. *Reports of Maintenance and Unsatisfactory Equipment.* Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, as contained in Maintenance Management Update.

b. *Report of Packaging and Handling Deficiencies.* Fill out and forward SF 364 (Report of Discrepancy ROD)) as prescribed in AR 735-11-2/DLAR 4140.55/-NAVMAINST 4355.73A/AFR 400-54/MCO 4430.3F.

c. *Discrepancy in Shipment Report (DISREP) (SF*

11-7440-314-13-2 through -6, provides for complete operator's, organizational and direct support maintenance coverage of RAMTEK Model R6211-01.

Technical Manual

TM 11-7440-314-13-2
TM 11-7440-314-13-3
TM 11-7440-314-13-4
TM 11-7440-314-13-5
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361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/-NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

4. Reporting Equipment Improvement Recommendations (EIR)

If your equipment needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on an SF 368 (Quality Deficiency Report). Mail it to Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ME-MP, Fort Monmouth, New Jersey 07703-5007. We'll send you a reply.

5. Administrative Storage

Administrative storage of equipment issued to and used by Army activities will have preventive maintenance performed in accordance with the PMCS charts before storing. When removing the equipment from administrative storage the PMCS should be performed to assure operational readiness.

6. Destruction of Army Electronics Materiel

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.



APPENDIX A REFERENCES

DA Pam 310-1	Consolidated Index of Army Publications and Blank Forms.
Consolidated Index of Army Publications and Blank Forms.	
DA Pam 738-750	The Army Maintenance Management System (TAMMS).
*TM 11-7440-314-13-2	Operator's, Organizational and Direct Support Maintenance Manual for Color Graphic Language.
*TM 11-7440-314-13-3	Operator's, Organizational and Direct Support Maintenance Manual for Color Graphics Computer Terminal (6210 Series) Vol 1.
*TM 11-7440-314-13-4	Operator's, Organizational and Direct Support Maintenance Manual for Color Graphic Computer Terminal (6210 Series) Vol 2.
*TM 11-7440-314-13-5	Operator's, Organizational and Direct Support Maintenance Manual for Graphic Display Monitor GM-714.
*TM 11-7440-314-13-6	Operator's, Organizational and Direct Support Maintenance Manual for Color Monitor GM-713/719.
*TM 11-7440-314-24P	Organizational, Direct Support and General Support Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) for Color Graphics Terminal Ramtek R6211-01.
TM 740-90-1	Administrative Storage of Equipment.
TM 750-244-2	Procedures for Destruction of Electronics Materiel to Prevent Enemy Use (Electronics Command).

* Not stocked by the Army Publication Center. Copies may be obtained from Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ME-PEW, Fort Monmouth, New Jersey 07703-5007.

APPENDIX B COMPONENTS OF END ITEM LIST

Section I. INTRODUCTION

B-1. Scope

This appendix lists integral components of and basic issue items for the Color Graphic Computer Terminal, RAMTEK Model R6211-01 to help you inventory items required for safe and efficient operation.

B-2. General

This Components of End Item List is divided into the following sections:

a. Section II. Integral Components of the End Item. These items, when assembled, comprise the RAMTEK R6211-01 and must accompany it whenever it is transferred or turned in. The illustrations will help you identify these items.

b. Section III. Basic Issue Items. Not applicable.

B-3. Explanation of Columns

a. Illustration. This column is divided as follows:

(1) *Figure number.* Indicates the figure number of the illustration on which the item is shown.

(2) *Item number.* The number used to identify item called out in the illustration.

b. National Stock Number. Indicates the National stock

number assigned to the item and which will be used for requisitioning.

c. Part Number. Indicates the primary number used by the manufacturer, which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items. Following the part number, the Federal Supply Code for Manufacturers (FSCM) is shown in parentheses.

d. Description. Indicates the Federal item name and, if required, a minimum description to identify the item.

e. Location. The physical location of each item listed is given in this column. The lists are designed to inventory all items in one area of the major item before moving on to an adjacent area.

f. Usable on Code. Not applicable.

g. Quantity Required (Qty Reqd). This column lists the quantity of each item required for a complete major item.

h. Quantity. This column is left blank for use during an inventory. Under the Rcvd column, list the quantity you actually receive on your major item. The Date columns are for your use when you inventory the major item at a later date; such as for shipment to another site.

SECTION II INTEGRAL COMPONENTS OF END ITEM

(1) ILLUSTRATION		(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION PART NUMBER (FSCM)	(4) LOCATION	(5) USABLE ON CODE	(6) QTY REQD	(7) QUANTITY	
(A) FIG NO.	(B) ITEM NO.						RCVD	DATE
			COLORGRAPHIC COMPUTER TERMINAL RAMTEK MODEL R6211-01					

APPENDIX D MAINTENANCE ALLOCATION

Section I. INTRODUCTION

D-1. General

This appendix provides a summary of the maintenance operations for RAMTEK R6211-01. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

D-2. Maintenance Function

Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and to detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to the specified parameters.

e. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Install. The act of emplacing, seating, or fixing into position an item, part, module (component or assembly) in a manner to allow the proper functioning of the equipment or system.

h. Replace. The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services (inspect, test, service, adjust, align, calibrate, replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. Overhaul. That maintenance effort (service/action) necessary to restore an item to a completely serviceable/-operational condition as prescribed by maintenance standards (i.e., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours, miles, etc.) considered in classifying Army equipments/components.

D-3. Column Entries

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. Column 2, Component/Assembly. Column 2 contains the noun names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Functions. Column 3 lists the functions to be performed on the item listed in column 2. When items are listed without maintenance functions, it is solely for purpose of having the group numbers in the MAC and RPSTL coincide.

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a "work time" figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate "work time" figures will be shown for each category. The number of task-hours specified by the "work time" figure represents the average time required to restore an item (assembly, subassembly, component, module, end item or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. Subcolumns of column 4 are as follows:

C - Operator/Crew
O - Organizational

- F - Direct Support
- H - General Support
- D - Depot

e. Column 5, Tools and Equipment. Column 5 specifies by code, those common tool sets (not individual tools) and special tools, test, and support equipment required to perform the designated function.

f. Column 6, Remarks. Column 6 contains an alphabetic code which leads to the remark in section IV, Remarks, which is pertinent to the item opposite the particular code.

D-4. Tool and Test Equipment Requirements (Sect. III)

a. Tool or Test Equipment Reference Code. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool or test equipment for the maintenance functions.

b. Maintenance Category. The codes in this column indicate the maintenance category allocated the tool or test equipment.

c. Nomenclature. This column lists the noun name and nomenclature of the tools and test equipment required to perform the maintenance functions.

d. National/NATO Stock Number. This column lists the National/NATO stock number of the specific tool or test equipment.

e. Tool Number. This column lists the manufacturer's part number of the tool followed by the Federal Supply Code for manufacturers (5-digit) in parentheses.

D-5. Remarks (Sect. IV)

a. Reference Code. This code refers to the appropriate item in section II, column 6.

b. Remarks. This column provides the required explanatory information necessary to clarify items appearing in section II.

(Next printed page is D-3)

SECTION II MAINTENANCE ALLOCATION CHART
FOR

GRAPHIC COMPUTER TERMINAL R6212-01

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT.	(6) REMARKS
			C	O	F	H	D		
00	Graphics Cmptr Term R6212-01 (55257)	Inspect		0.1					
01	Graphics Processor 507345-02	Inspect Test Test Replace Repair Repair		0.1 0.3 0.2 1.5			1.0 4.0	1-5	A
0101	Processor CCA 50330-03	Inspect Test Replace Repair		0.1 0.1			1.0 4.0	1	
0102	Memory Video CCA 506050-01	Inspect Test Replace Repair		0.1 0.1			1.0 4.0	1	
0103	High Sp Vector CCA 506023-01	Inspect Test Replace Repair		0.1 0.1			1.0 4.0	1	
0104	Power Supply 504343-04	Inspect Test Replace Repair		0.1 0.1			1.0 4.0	1	
02	Color Monitor GM-714C 506054-01 GM-714R 506053-01 MTBF = 2500 Hrs	Inspect Test Test Replace Repair Repair		0.1 0.1 0.1 0.1			1.0 3.0	1,2	B C
0201	Video CCA 7910002-01	Inspect Test Replace Repair					0.1 3.0 0.3 4.0		
0202	Power CCA 7910003-01	Inspect Test Replace Repair					0.1 3.0 0.3 4.0		
0203	Deflection CCA 7910001-01	Inspect Test Replace Repair					0.1 3.0 0.3 4.0		
0204	FBT Assy 7910005-01	Inspect Test Replace Repair					0.1 3.0 0.3 4.0		
03	Color Monitor GM-719C MTBF = 2857 Hrs	Inspect Test Replace Repair		0.1 0.1			1.0 3.0		D
0301	High Voltage CCA 8199008-00	Inspect Test Replace Repair					0.1 3.0 0.3 4.0		
0302	Video CCA 8199006-00	Inspect Test Replace Repair					0.1 3.0 0.3 4.0		
0303	Convergence CCA 8199005-00	Inspect Test Replace Repair					0.1 3.0 0.3 4.0		

SECTION II MAINTENANCE ALLOCATION CHART
FOR

GRAPHICS COMPUTER TERMINAL R6212-01

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT.	(6) REMARKS
			C	O	F	H	D		
0304	Control CCA 8199010-00	Inspect Test Replace Repair					0.1 3.0 0.3 4.0		
0305	Power CCA 8199009-00	Inspect Test Replace Repair					0.1 3.0 0.3 4.0		
0306	Regulator CCA 8199011-00	Inspect Test Replace Repair					0.1 3.0 0.3 4.0		
0307	Deflection CCA 8199007-00	Inspect Test Replace Repair					0.1 3.0 0.3 4.0		

SECTION III TOOL AND TEST EQUIPMENT REQUIREMENTS FOR

GRAPHICS COMPUTER TERMINAL R6212-01

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	0	ELEK EQPT TOOL KIT TK-105/G	5180-00-610-8177	
2	0	DIGITAL MULTIMETER AN/USM-486	6625-01-145-2430	8050A (89536)
3.	0	DUAL TRACE OSCILLOSCOPE OS-261C/U	6625-01-119-7314	475 (80009)
4	0	LOGIC ANALYZER	N/A	318 (80009)
5	0	IPF MAINTENANCE KIT MK-2435/G	N/A	21-165910 (28815)

SECTION IV. REMARKS

REFERENCE CODE	REMARKS
A	Consists of replacement of subassemblies and mainframe components as required.
B	Consists of replacement of exterior fuse F991.
C.	CCA 7910004-01 is a throw-away item.
D	CRT CCA 8199014-00 is a throw-away item.

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



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FORM. CAREFULLY TEAR IT
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TM 11-5840-340-12

PUBLICATION DATE

23 Jan 74

PUBLICATION TITLE

Radar Set AN/PRC-76

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PAGE NO	PARA- GRAPH	FIGURE NO	TABLE NO
2-25	2-28		
3-10	3-3		3-1
5-6	5-8		

IN THIS SPACE TELL WHAT IS WRONG
AND WHAT SHOULD BE DONE ABOUT IT:

Recommend that the installation antenna alignment procedure be changed throughout to specify a 2° IFF antenna lag rather than 1°.

REASON: Experience has shown that with only a 1° lag, the antenna servo system is too sensitive to wind gusting in excess of 25 knots, and has a tendency to rapidly accelerate and decelerate as it hunts, causing strain to the drive train. Hunting is minimized by adjusting the lag to 2° without degradation of operation.

Item 5, Function column. Change "2 db" to "3db."

REASON: The adjustment procedure for the TRANS POWER FAULT indicator calls for a 3 db (500 watts) adjustment to light the TRANS POWER FAULT indicator.

Add new step f.1 to read, "Replace cover plate removed in step e.1, above."

REASON: To replace the cover plate.

Zone C 3. On J1-2, change "+24 VDC to "+5 VDC."

REASON: This is the output line of the 5 VDC power supply. +24 VDC is the input voltage.

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SSG I. M. DeSpirito 999-1776

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